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Chemotherapy-induced anemia increases risk of local breast cancer recurrence

PHILADELPHIA ‹Patients with breast cancer who developed anemia during chemotherapy had nearly three times the risk of local recurrence as those who did not, according to a study published in the April 1 issue of Clinical Cancer Research a journal of the American Association for Cancer Research.

We speculate that there may be an interaction between chemotherapy/radiotherapy and anemia,‹said lead researcher Peter Dubsky, MD, a senior consultant in the department of surgery at the Medical University of Vienna, Austria. Both treatment modalities have been shown to be less effective in anemic patients. Since we do not see the effect in terms of relapse-free survival, the interaction with local adjuvant treatment may play a more important role.‹/p>

Dubsky and his colleagues from the Austrian Breast and Colorectal Cancer Study Group examined data from a randomized, clinical trial comparing adjuvant hormonal treatment and tamoxifen with the standard treatment of cyclophosphamide, methotrexate and 5-fluorouracil (CMF). All women in the trial were premenopausal and had positive estrogen and/or progesterone receptor status. Patients who underwent breast-conserving surgery received mandatory radiation. Radiation was optional in women who underwent modified radical mastectomy.

For the current analysis, the researchers focused on anemia data from the 424 patients in the CMF arm, as the rates of anemia among those who received the hormonal treatment were low. They examined local relapse-free survival, relapse-free survival and overall survival.

Anemia occurred in 18.2 percent of patients who received CMF chemotherapy. Anemia was defined as an incidence of at least one serum hemoglobin level below 12 g/dL during chemotherapy through the first follow-up date three months after adjuvant treatment concluded.

After a median follow-up of 61 months, 39 local relapses occurred: 6.9 percent in patients without anemia and 19.5 percent in patients with anemia. The 5-year rates of relapse were 8.2 percent among nonanemic patients and 19.6 percent among anemic patients. Patients without anemia experienced a significantly longer local relapse-free survival than patients with anemia, according to the study.

Other factors that significantly increased local relapse-free survival were younger age at diagnosis and negative lymph node status. Any relationship between anemia and tumor size, postoperative radiation or type of surgery did not have an effect on local relapse-free survival, researchers say.

Relapse-free survival did not differ significantly with the presence or absence of anemia. There seemed to be no difference when distant or contralateral events were part of the analysis,‧said Dubsky. The effect was limited to local recurrences. Any explanation of the limit is pure speculation.

No difference in overall survival was evident, but Dubsky says he doubted one would be seen given the number of patients and the length of follow-up. Follow-up of 10 to 15 years would be needed to observe any significant differences, he says.

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